GX7100e SERIES

MARVIN TEST SOLUTIONS

3U / 6U PXIE CHASSIS

- 14-slot 3U / 6U PXI Express combo chassis with 4x4 Gen2 backplane
- Accommodates a single slot 3U PXIe controller, one 3U PXIe, three 3U hybrid, two PXI-1 and seven 6U hybrid slot compatible instruments
- Built-in hard disk drive for embedded controller configurations
- Integral Smart functions provide internal temperature monitoring, power supply monitoring, fan control and PXI trigger mapping
- Optional cable tray, recessed card cage, and hinged front panel configurations for mass interconnect devices



DESCRIPTION

The GX7100e Series are 14-slot combination PXIe chassis that accommodate a 3U PXIe embedded controller or a MXI express controller as well as 3U & 6U PXI / PXIe insruments in 4U of rack space. The GX7100e's unique format includes seven 6U slots and seven 3U slots arranged horizontally to reduce the overall size of the chassis, providing the versatility and high-density necessary to address many PXI / PXIe applications and requirements. The backplane architecture supports Gen 2, 4x4 PCI Express bus signaling and the use of both x1 or x4 system controllers. By offering a combination of PXI-1, Hybrid, and Express slots, the GX7100e offers users the ultimate in flexibility for general purpose as well as high bandwidth test needs.

FEATURES

The GX7100e Series offers a full range of features and options including an innovative forced-air cooling system comprised of eight (8) 20 CFM fans controlled by built-in temperature sensors. The fans provide airflow according to PXI revision 2.1 specifications. This cooling configuration provides optimum cooling for the chassis regardless of the type or number of instruments used. Additional cooling is provided for the system power supply.

The GX7100e Smart Chassis supports the monitoring of internal chassis temperatures and system power supply voltages as well providing the ability to program or map each PXI trigger line from one PCI segment to another. In addition, the user can program the temperature monitoring function for specific warning and shutdown limits. All user specific setups can be stored in non-volatile memory as a user configuration and can be used as the default setup for normal chassis operation.

For applications requiring mass interconnect and cable routing to/ from the rear of the chassis, the GX7100e Series offers the ideal system solution. These chassis include an integrated 2U cable tray, a hinged front-panel that accommodates all popular mass interconnect devices, optional openings at the top and bottom of chassis for cable routing, and recessed PXI instruments (recessed by 2.5" or 5"). The combination of front panel and the recessed instruments provides up to 8" of space for interface wiring.

The GX7100e Series provides 650 W of system power and complies with the PXI Hardware Specification PXI-5, Rev. 2.0.

CONFIGURATION

Slot 1 (3U) is dedicated to the system controller (embedded or remote, using a PXIe bus expander). Slot 2 can be used by a PXIe or cPCIe peripheral.Slots 3 and 4 support 3U PXI-1 peripherals and slots 5-7 support 3U PXI hybrid slot compatible peripherals. Slots 8 -14 support 6U hybrid slot compatible peripherals.

PROGRAMMING AND SOFTWARE

The chassis is supplied with the GxChassis software which provides software libraries and a driver, programming examples, virtual panel application and documentation. The virtual panel provides a way to control, configure and display the smart chassis' features, including temperature monitoring, trigger line mapping, and power supply voltage monitoring. A 32/64-bit Windows DLL driver is provided with various interface files for accessing the DLL functions from programming tools and languages such as ATEasy, LabVIEW, C/C++, Microsoft Visual Basic®, Delphi, and more. A User's Guide provides documentation that includes instructions for installing, using and programming the chassis. Support for Linux for the chassis is provided using a separate software package - GtLinux.

APPLICATIONS

- Automatic Test Equipment (ATE)
- Data Acquisition
- Production Test
- Portable Systems

CHASSIS AND CONTROLLERS

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SPECIFICATIONS

CHASSIS SPECIFICATIONS	
Input AC Power	90 - 264 V_{AC}, 47 - 63 Hz, 11 A max with PFC
Total Available DC Power	650 W
+5 V +3.3 V +12 V -12 V Note: Total PXI power cannot exceed 650 W	60 A (max) 40 A (max) 35 A (max) 5 A (max)
Weight GX7100e GX7110e GX7102e GX7112e	 26 lbs 23 lbs 28 lbs 25 lbs
Dimensions GX7100e GX7110e GX7102e GX7112e	 4U (7") H x 17.6" W x 16" D 4U (7") H x 17.6" W x 16" D 6U (10.5") H x 17.6" W x 23" D 6U (10.5") H x 17.6" W x 23" D
Cooling	• Eight 20 CFM fans for instruments • Additional fan for the system power supply
PXI Clock	Integrated 10 MHz PXI clock with auto-detect function. Presence of an external 10 MHz PXI clock will disable the internal clock. PXI clock is distributed to all peripheral slots. Optional external clock can be supplied via slot 2 or via the rear panel 10 MHz input.
Temperature Monitoring	7 temperature sensors, centrally located across segment A, 1 reading/sec/sensor 4 second moving average value User selectable alarm criteria: • Maximum slot temperature • Average slot temperature Accuracy: ±1 °C Default warning and shutdown limits: +50 °C and +70 °C Warning and shutdown limits programmable via software driver Status: Query via software driver and audible alarm for a warning limit condition
Power Supply Monitoring	Monitored voltages: 3.3, 5, +12, -12, VIO value Accuracy: ±1% of reading
PXI Triggers	Slots: 2 - 14 Number: 8 per segment Software controlled segment mapping supports: • Isolate a trigger line within a segment • Map a trigger line from segment A to B • Map a trigger line from segment B to A
Slot Configuration	(7) 6U PXI hybrid peripheral slots (1) 3U PXIe controller slot (1) 3U PXIe peripheral slot (2) 3U PXI-1 peripheral slots (3) 3U PXIe peripheral hybrid slots
GX7100e / GX7102e Peripherals	500 GB (min) Hard Drive, 7200 rpm
ENVIRONMENTAL SPECIFICATIONS	
Acoustic Noise (at operator level, 12 inches from front of unit)	Auto or High fan setting (@ 23°C ambient): < 40 dBA
Operating	0 °C to +50 °C
Storage	-20 °C to +60 °C

Note: Specifications are subject to change without notice

CHASSIS AND CONTROLLERS

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GX7100e SERIES

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ORDERING INFORMATION

GX7100e	6U/3U, 14 Slot Smart PXIe Master Desktop Combo Chassis w/Hard Disk Drive
GX7110e	6U/3U, 14 Slot Smart PXIe Slave Desktop Combo Chassis for Use with PXI Remote Controllers
GX7102e	GX7100e with an Integrated Cable Tray & a Hinged Front Panel for Mass Interconnect (Rackmount Configuration)
GX7100eR	6U/3U, 14 Slot Smart PXIe Master Rackmount Combo Chassis w/DVD-RW & Hard Disk Drive
GX7110eR	GX7110e with Rackmount
GX7112e	GX7110e with an Integrated Cable Tray & a Hinged Front Panel for Mass Interconnect (Rackmount Configuration)
GX7112e-5NBT	GX7112e with the Card Cage Recessed 5", Top/Bottom Cable Routing Opening, No Door
GX7112e-5NBTS	GX7112e with the Card Cage Recessed 5", Top/Bottom Cable Routing Opening, No Door, Countersink Screw
GX7110e-2	GX7110e with a 2" recessed instrument card cage
GX7110eR-2	GX7110e with a 2" recessed instrument card cage w/rack-mount
GX7112e-5TB	GX7112e with the card cage recessed 5", & top/bottom cable routing openings
GX7112e-5NB	GX7112e with the card cage recessed 5", Bottom Cable Routing Opening, no door
GX7102e-5TB	GX7102e with the card cage recessed 5", & top/bottom cable routing openings
CONTROLLER	
GX7945-SSD	3U i7 Quad Core, 2.4 GHz Processor cPCI Express Controller, 16GB of RAM, 1TB SSD
GX7951	11 Gen i7-1165G7 mini-PC
BUS EXPANDER	
MXIe1-Express	MXI-Express Interface Kit (PCIe I/F Card, PXIe I/F Card, 3-Meter Cable). 192MB Throughput, includes 2-port PCIe card
MXIe4-Express-1	MXI-Express Interface Kit (PCIe I/F Card, PXIe I/F Card, 3-Meter Cable). 798MB Throughput, 1-port PCIe card
MXIe-Express-x16	PXIe, PCIe, 3m Cbl
PCIe Device for PXI Remote Control x16	PCIe Device for PXI Remote Control x16
PXIe Remote Control x16	PCIe Device for PXI Remote Control x16
MXIe-Express-x1	PXIe, PCIe, 3m Cbl
PCIe Device for PXI Remote Control x1	PCIe Device for PXI Remote Control x1
PXIe Remote Control x1	PCIe Device for PXI Remote Control x1
ACCESSORY	
GX97005	3U to 6U Panel Adapter (Allows a 3U Instrument to Fit into a 6U Chassis)
GX97011	6U Blank Panel, 1-Slot wide
GX97012	6U Blank Panel, 2-Slots wide
GX97014	6U Blank Panel, 4-Slots wide
GX97111	3U Blank Panel, 1-Slot wide
GX97112	3U Blank Panel, 2-Slots wide
GX97114	3U Blank Panel, 4-Slots wide
GX97117	3U Blank Panel with Air Baffle
GX97100	Rack Mount Kit for GX7100, GX7200 & GX7300 Chassis
GX97103	Rack Mount with Handles GX7100 Chassis
GX97914	14-Slot PXI Chassis Installation/Integration Service & 2nd Year Warranty
GX97028	Replacement PXI Chassis Power Supply
SERVICES	
GX97914	14-Slot PXI Chassis Installation/Integration Service & 2nd Year Warranty
OPTION	
GX7xxx-400Hz	115VAC/400Hz Input Power Option for any Marvin Test Solutions PXI Chassis

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